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of

12

EPA-R6-2013-010211

Wastes Managed: This unit manages filter cake from the wastewater treatment sludges derived from the production of creosote. This waste (K035) is listed for the hazardous constituents creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: There are no documented releases from this unit. During the VSI, there was no evidence of release.

#### 5.7.2 Release Potential

- o Soil/Groundwater: Since this unit is underlain with concrete, is surrounded by curbing, and drainage is directed to the Steel Tank (SWMU 4), the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit is underlain with concrete, is surrounded by curbing, and drainage is directed to the Steel Tank (SWMU 4), the potential for release of hazardous constituents to surface water is low.

- o Air: Since the hazardous constituents for which waste managed by this unit are not highly volatile (they are semi-volatile) and any volatiles in this waste would have most likely been "driven off" prior to entering this unit, the potential for release of hazardous constituents to air is low.
  
- o Subsurface Gas: Since this unit is aboveground and underlain by concrete, the potential for subsurface gas generation is low.

## 5.8 SWMU 8 - Aeration Tank (T-610) (Photos 11 and 12)

### 5.8.1 Information Summary

Unit Description: This active unit is constructed of carbon steel and is 15 feet in height and 24 feet in diameter. The total capacity of the unit is 50,750 gallons and the operational capacity is rated at 33,840 gallons. The unit is an open-topped tank with aboveground piping. It is equipped with aerators to treat the wastewater. This unit receives waste (manually pumped) via aboveground pipelines. The unit has an overflow pipe to the clarifier which is gravity-fed. This is a non-RCRA regulated unit, part of the wastewater treatment system.

Dates of Operation: This unit has been in service since 1978 and is currently in operation. There are no plans for closure.

Release Controls: This unit has an overflow pipe which is gravity fed to the clarifier. The unit is constructed on a concrete base. Drainage from the unit is sloped to the Drumming Area Trench System (SWMU 21).

Wastes Managed: This unit receives wastewater from the API Separator (SWMU 17) and the Storm Water Surge Tank (SWMU 1). This waste stream may contain the hazardous constituents creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene, which are associated with creosote production.

History of Releases: There have been no documented releases from this unit. During the VSI, there was no evidence of release.

#### 5.8.2 Release Potential

- o Soil/Groundwater: Since waste received by this unit is manually pumped and the unit is equipped with an overflow pipe to the Clarifier (SWMU 9), the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since waste received by this unit is manually pumped and the unit is equipped with an overflow pipe to the Clarifier (SWMU 9), the potential for release of hazardous constituents to surface water from this unit is low.

- o Air: Since this unit is used to aerate wastes containing semi-volatile organics, the potential for release of hazardous constituents to air is high.
  
- o Subsurface Gas: Since this unit is situated on a concrete pad, the potential for subsurface gas generation is low.

## 5.9 SWMU 9 - Clarifier (T620) (Photo 12)

### 5.9.1 Information Summary

Unit Description: This active unit is constructed of carbon steel and is an open-top tank structure. The unit is 10 feet high and 16 feet in diameter. It has a capacity of 15,040 gallons. This non-RCRA-regulated unit is part of the wastewater treatment system. This unit has a gravity overflow pipe in which clarified wastewater is discharged to facility Outfall No. 101 (treated effluent) and from there to the Effluent Ditch (SWMU 16) and to Outfall 001. Sludges from the Clarifier are returned to the Aeration Tank (SWMU 8) via aboveground piping or are directed the Sludge Tank (SWMU 2).

Dates of Operation: This unit began operation in 1978 and is still in service. There are no plans for closure.

Release Controls: This tank unit is situated on a concrete base. Drainage from the tank area is to the Drumming Area Trench System (SWMU 21).

Wastes Managed: This unit receives wastewater and sludges from the treatment of wastes generated in creosote production (K035). These wastes may include the hazardous constituents

creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: There are no documented releases from this unit, except those that are intentional to Outfall 101. There was no evidence of release observed during the VSI. However, during operations of the wastewater treatment system, periodic excursions of pH, ammonia, and cyanide have occurred due to increased feed rates or excess nitrification.

#### 5.9.2 Release Potential

- o Soil/Groundwater: Since normal discharge from this unit is directed to the Effluent Ditch (SWMU 16) and no evidence of other release was documented or observed during the VSI, the potential for release of hazardous constituents to soil/groundwater from this unit is low.



- o Surface Water: Since this unit discharges to the Effluent Ditch (SWMU 16) prior to discharge to surface water bodies, the potential for direct release of hazardous constituents to surface water from this unit is low.
  
- o Air: Since this unit is open-topped and waste received may contain semi-volatile organics, the potential for release of hazardous constituents to air from this unit is moderate.
  
- o Subsurface Gas: Since this unit is above ground, and situated on a concrete pad, the potential for subsurface gas generation is low.

5.10 SWMU 10 - Land Irrigation Area (Photo 13)

5.10.1 Information Summary

Unit Description: This inactive unit was formerly used for the evaporation and organic reduction of plant wastewater. Wastewater was applied on the surface soil with a series of spray irrigators. This unit is an area of approximately 3,600 square feet located southeast and surrounding the Surface Impoundment (SWMU 11). This unit was replaced by the current wastewater treatment system. During operation, approximately 120 gallons per day of wastewater effluent was irrigated into this area.

Dates of Operation: This unit was put into service in 1966 and ceased operation prior to 1980. This unit was never formally closed.

Release Controls: There are no release controls associated with this unit. There are three monitor wells (MW-2, MW-3, and MW-4) associated with the Surface Impoundment (SWMU 11) which could serve as monitoring units for this area.

Wastes Managed: This unit was used prior to the implementation of the wastewater treatment system, to treat (evaporation and organic reduction) wastewater streams generated at the facility. Hazardous constituents in these streams may include creosote (U051), chrysene, naphthalene, fluoranthene, benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: This unit was intentionally used to release wastewaters to the soil and air. However, there is no documentation in file information available concerning soil samples collected for this area.

#### 5.10.2 Release Potential

- o Soil/Groundwater: Since this unit was intentionally used to evaporate wastewater, i.e., wastes were applied to the soil, the potential for release of hazardous constituents to soil/groundwater is high.
- o Surface Water: Since no information is available regarding release controls in place during the operation of this unit, the potential for past

release of hazardous constituents to surface water cannot be determined.

- o Air: Since this unit was used to evaporate wastewater possibly containing semi-volatile organics, the potential for past release of hazardous constituents to air is high. However, since this unit is no longer in operation, the potential for current release of hazardous constituents to air is low.
- o Subsurface Gas: Since wastes placed in this unit were semi-volatile organics applied to the surface and the unit was never covered, the potential for subsurface gas generation is moderate.

5.11 SWMU 11 - Surface Impoundment (Lagoon) (Photos 12 and 13)

5.11.1 Information Summary

Unit Description: This inactive RCRA unit is an unlined earthen impoundment with the dimensions of 75 feet by 50 feet and is 5 feet deep. The earthen dikes around the lagoon are approximately 3 to 4 feet in height and were observed to be eroding in several areas during the VSI. The dike is covered with gravel and vegetation. This unit was formerly used to store wastewater treatment sludges (K035). It currently receives rainwater only. Any rainwater collected in the lagoon is pumped into the wastewater treatment system. As required by TWC in 1983, a groundwater assessment (40 CFR Part 265) is currently in progress for this unit. One upgradient well and three downgradient wells are in place and are being sampled on a quarterly basis.

Dates of Operation: This unit was in operation in 1979 and became inactive in 1983. Closure plans were submitted and approved by TWC in 1986 and the closure was reportedly in progress during the VSI. However, to date, no wastes have been removed from this unit. The facility is currently

awaiting TWC's approval of an amended closure plan in which the facility proposes to cap the impoundment with clay from on-site material.

Release Controls: No sample results have been submitted to the TWC for this unit. Reportedly, a 2-foot freeboard was maintained at all times. During the VSI, the unit appeared to be overgrown with vegetation and was dry.

Wastes Managed: This unit formerly received sludges skimmed from the Clarifier (SWMU 9). These hazardous sludges (K035) may have contained the hazardous constituents creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: During the initial closure of this unit, polyaromatic hydrocarbons (PAH) compounds were detected in soil samples collected. Groundwater monitoring data for this unit has not yet been submitted to the TWC.

#### 5.11.2 Release Potential

- o Soil/Groundwater: Since this unit is unlined, sludges containing hazardous constituents were disposed here and were detected in samples collected, the potential for release of hazardous constituents to soil/groundwater is high.
- o Surface Water: Since this unit is surrounded by earthen dikes which were reportedly maintained with a 2-foot freeboard during operation, the potential for past release of hazardous constituents to surface water is low. Since this unit is no longer in operation and is currently dry, the potential for present release is also low.
- o Air: Since this unit was used to manage waste sludges with semi-volatile organics and was open to the atmosphere, the potential for past release of hazardous constituents to air is moderate. However, since this unit is no longer in operation, the potential for current release is low.

- o Subsurface Gas: Since this unit was unlined and managed semi-volatile organics the potential for subsurface gas generation is moderate.



5.12      SWMU 12 - Sump S-500 (Photo 14)

5.12.1    Information Summary

Unit Description: This active unit is an in-ground rectangular concrete structure with dimensions of approximately 20 feet by 15 feet and is 11 feet deep. The total capacity of this unit is 23,660 gallons. It is a non-RCRA regulated unit. This unit is covered with a metal roofing structure to prevent rainwater infiltration. This unit receives runoff waste from the Process Area Trench System (SWMU 22). Waste is transferred from this unit to the Storm Water Surge Tank (SWMU 1).

Dates of Operation: This unit has been in service since 1963 and is currently in operation. There are no plans for closure.

Release Controls: This unit is constructed of concrete, is covered, and is equipped with level indicators and automatic pumps. Overflow would be to the Process Area Trench System (SWMU 22).

Wastes Managed: This unit receives process area and truck and tank car loading area runoff via the Process Area Trench System (SWMU 22). This waste may contain the hazardous

constituents associated with creosote production such as: creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: There have been no documented releases from this unit. During the VSI, there was no evidence of release.

#### 5.12.2 Release Potential

- o Soil/Groundwater: Since this unit is constructed of concrete, the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit is equipped with automatic pumps and overflow would back up into the Process Area Trench System (SWMU 22) and be contained, the potential for release of hazardous constituents to surface water is low.
- o Air: Since wastes stored in this unit are semi-volatile and the unit is covered, the potential for release to air is moderate.

- o Subsurface Gas: Since this unit is constructed of concrete, the potential for subsurface gas generation is low.

5.13      SWMU 13 - Sump S-400    (Photo 15)

5.13.1    Information Summary

Unit Description: This active unit is an in-ground rectangular concrete structure with dimensions approximately 20 feet by 15 feet and is 11 feet deep. It has a total operational capacity of approximately 23,660 gallons. This non-RCRA regulated unit is located on the west side of the property. It receives wastes from the Process Area Trench System (SWMU 22). Waste from this unit is directed to the Storm Water Surge Tank (SWMU 1) by automatic pumps. This unit is equipped with a metal cover.

Dates of Operation: This unit became operational in 1963 and is still in operation. There are no plans for closure.

Release Controls: This unit is constructed of concrete and is covered with a metal structure. It is equipped with level indicators and automatic pumps. Overflow from this unit would be to Process Area Trench System (SWMU 22).

Wastes Managed: This unit receives process and loading area runoff via the Process Area Trench System (SWMU 22). This unit has the potential to contain the hazardous constituents

associated with creosote such as: creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: There have been no documented releases from this unit. During the VSI, there was no evidence of release.

#### 5.13.2 Release Potential

- o Soil/Groundwater: Since this unit is constructed of concrete, the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit is equipped with automatic pumps and overflow would back up into the Process Area Trench System (SWMU 22) and be contained, the potential for release of hazardous constituents to surface water is low.
- o Air: Since wastes stored in this unit are semi-volatile and the unit is covered, the potential for release to air is moderate.

- o Subsurface Gas: Since this unit is constructed of concrete, the potential for subsurface gas generation is low.

5.14 SWMU 14 - Waste Pile (No photo)

5.14.1 Information Summary

Unit Description: This inactive unit was previously located inside the tank farm area dikes (13, 29). During the VSI, it was learned that the waste pile is no longer in existence. Reportedly, this unit was used for storage of spill clean-up material prior to the use of the dumpsters (Dumpster Storage Area - SWMU 6). The facility representatives could not determine the former location of this unit. There was no further information available.

Dates of Operation: It is not known when this unit began operation; however, it was no longer in service as of July 1983 (13, 29). There was no evidence of this unit noted during the VSI.

Release Controls: The waste pile was located inside the Tank Farm Area and was contained by its earthen dikes. This diking system would normally prevent potential surface runoff, however, in a TWC inspection of 1978, it was noted that the dikes were eroded and less than 2 feet of freeboard was maintained (13). No other release controls are known to have existed for the waste pile.

Wastes Managed: This unit reportedly received spill clean-up material which would include hazardous constituents found in creosote (creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene) and related contaminated soils.

History of Release: There have been no documented releases specifically from this unit. During the VSI, this unit was not in existence. However, soil and water samples collected by TWC from the tank farm area where this unit was formerly located indicated the presence of hazardous constituents.

#### 5.14.2 Release Potential

- o Soil/Groundwater: Since no information is available regarding whether this unit was lined or located on a pad, the potential for release of hazardous constituents to soil/groundwater cannot be determined. However, it is a suspected contributor to the contamination identified by the TWC in the tank farm.



- o Surface Water: Since this unit was located inside the tank farm dikes which had erosional problems (i.e., a 2-foot freeboard was not continually maintained) the potential for past release of hazardous constituents to surface water is moderate. Drainage from the tank farm area would be to the Effluent Ditch (SWMU 16) and then off-site to the Houston Ship Channel.
- o Air: Since waste piles are typically open to the air, and semi-volatile organic constituents may have been present in the wastes managed, the potential for past release of hazardous constituents to air is high. However, since this unit no longer exists, the potential for current release is low.
- o Subsurface Gas: The potential for subsurface gas generation could not be determined since the containment is unknown.

5.15 SWMU 15 - Decanter Tank (Photo 16)

5.15.1 Information Summary

Unit Description: This active unit is an aboveground, horizontal, enclosed steel tank, with aboveground piping. It has a capacity of 15,000 gallons. This unit receives wastewater from the first distillate off the Fraction Tower (process unit) where oil and water is separated. Oils from this unit are routed to tar storage, and wastewater is sent to the Retention Tank T-105 (SWMU 20) for further oil/ water separation.

Dates of Operation: This unit became operational in 1983 and is still in operation. There are no plans for closure.

Release Controls: This totally enclosed unit is situated inside a 3-foot concrete diked area underlain with concrete. Any run-off collection in this area is pumped to the Retention Tank T-105 (SWMU 20).

Wastes Managed: This unit receives the first distillate from the distillation column (Fraction Tower) which may contain the hazardous constituents associated with creosote production such as creosote (U051), chrysene, naphthalene, fluoranthene

benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: There have been no documented releases from this unit. There was no evidence of release during the VSI.

#### 5.15.2 Release Potential

- o Soil/Groundwater: Since this unit is aboveground and is situated over a concrete pad with concrete diking, the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit is located inside a concrete diked area, the potential for release of hazardous constituents to surface water is low.
- o Air: Since this unit is totally enclosed, the potential for release of hazardous constituents to air is low.

- o Subsurface Gas: Since this unit is aboveground and located over a concrete pad, the potential for subsurface gas generation is low.

5.16      SWMU 16 - Effluent Ditch (Photo 17 and 18)

5.16.1    Information Summary

Unit Description: The effluent ditch formerly received cooling tower and boiler blowdown directly. Currently, this material is routed to the Concrete Sump (SWMU 18) and the wastewater treatment system. This unit presently receives treated effluent from the wastewater treatment system, possible runoff from the drumming area trench system, rain-water and uncontaminated storm water runoff. This active unit is approximately 1 mile long and runs from approximately 100 yards inside the Koppers property to the Houston Ship Channel. It is an unlined earthen ditch approximately 3 feet in depth. The main facility Outfall (NPDES-001) is located in this ditch at the Koppers fenceline (Photo 18).

Dates of Operation: This unit was in operation in 1963 and has been in continual operation since that time. There are no plans for closure.

Release Controls: Oil booms are located at the point in which the ditch discharges from the Kopper's property. Daily and weekly water samples are collected for compliance with NPDES discharge monitoring requirements.

Wastes Managed: This unit has a potential to receive effluent water containing hazardous constituents such as creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: As documented through the NPDES outfall monitoring information, various parameters have exceeded state specified limits for discharge from this unit (NPDES Outfall 001). The facility was issued an administrative order in April, 1986 regarding excursions. The facility subsequently brought the discharge into compliance (69, 70, 45). During the course of the VSI, an oily sheen was observed on the surface water both upstream and downstream of the oil booms. It was also noted that there was an opened empty can of motor oil (1 quart size) next to the ditch. The vegetation around the area was stressed.

The water sample collected from Outfall 001 during a TWC sampling investigation in 1985 reported no significant levels of priority pollutants present.

#### 5.16.2 Release Potential

- o Soil/Groundwater: Since this is an unlined earthen ditch which receives hazardous constituents, the potential for release of hazardous constituents to soil/groundwater is high.
- o Surface Water: Since the purpose of this unit is to convey facility wastewater (which may contain hazardous constituents) to the Houston Ship Channel, the potential for release of hazardous constituents to surface water is high. Releases are regulated under NPDES outfall 001.
- o Air: The wastewater received by this unit may contain semi-volatile organic constituents, however, since these constituents would most likely volatilize prior to entry into this unit, the potential for release to air from this unit is low.
- o Subsurface Gas: Since this unit is unlined, open to the atmosphere and has never been covered, the potential for subsurface gas generation is moderate.

5.17      SWMU 17 - API Separator (Photos 21 and 22)

5.17.1    Information Summary

Unit Description: This active unit is a rectangular steel tank with a 7,500-gallon capacity. It is used for oil/water separation. The dimensions of this unit are 6 feet by 30-1/2 feet and it is 6-1/2 feet deep. It is constructed of steel, is open-topped and it is elevated on steel and concrete supports. This unit receives contaminated process wastewater from the Concrete Sump S-200 (SWMU 18) and oily wastewater from the Storm Water Surge Tank (SWMU 1) via aboveground piping. Wastewater from this unit is routed to the Aeration Tank (SWMU 8) and separated oil is routed to the tar distillate tank for reprocessing.

Dates of Operation: This unit was put into operation in 1983 and is still in operation. There are no plans for closure.

Release Controls: This unit is situated inside the production area containment system. It is surrounded by 3-foot concrete walls and is situated on a concrete pad.



Wastes Managed: This waste managed in this unit may contain the hazardous constituents associated with creosote production such as creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Release: There have been no documented releases from this unit. During the VSI, there was no evidence of release.

#### 5.17.2 Release Potential

- o Soil/Groundwater: Since this unit is located aboveground over a concrete pad, the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit is located inside a contained area (3-foot concrete dikes), the potential for release of hazardous constituents to surface water is low.

- o Air: Since this unit is used to manage waste which may contain semi-volatile organics, the potential for release of hazardous constituents to air is moderate to high.
  
- o Subsurface Gas: Since this unit is aboveground and is underlain by concrete, the potential for subsurface gas generation is low.

5.18      SWMU 18 - Concrete Sump S-200 (Photo 19 and 20)

5.18.1    Information Summary

Unit Description: This active unit is a concrete structure with dimensions of approximately 20 feet by 15 feet and is 11 feet deep. It has an operational capacity of 23,660 gallons. This unit has a metal cover to prevent rainwater infiltration. It receives contaminated process wastewater, laboratory waste, waste oils from maintenance and sanitary wastes. These wastes are received, via the sewer system, aboveground piping, and the Process Area Trench System (SWMU 22). Waste from this unit is routed to the API Separator (SWMU 17) for oil/water separation. It is equipped with level indicators and automatic pumps.

Dates of Operation: This unit was put into operation in 1983 and is still in operation. There are no plans for closure.

Release Controls: This unit is constructed of concrete and has a concrete cover. It is equipped with level indicators and automatic pumps. It is located in the process area and runoff would be contained in the Process Area Trench System (SWMU 22).

Wastes Managed: This unit receives process area wastewater which includes process water from the distillation column, truck and tank car loading/unloading area runoff and storm water runoff, all via the Process Area Trench System (SWMU 22). In addition, this unit receives laboratory and sanitary waste from the sewer system and waste oils (via buckets) from maintenance operations. This waste may contain the hazardous constituents associated with creosote: creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Release: There have been no documented releases from this unit. There was no evidence of release during the VSI, however, the concrete structure was covered with oily residue.

#### 5.18.2 Release Potential

- o Soil/Groundwater: Since this unit is constructed of concrete, the potential for release of hazardous constituents to soil/groundwater is low.

- o Surface Water: Since this unit is covered and is located inside a contained area (process area trench system and a one-foot concrete retaining wall), the potential for release of hazardous constituents to surface water is low.
  
- o Air: Since this unit is used to manage semi-volatile wastes, there is a potential for release of hazardous constituents to air. However, since this unit has a metal cover, this potential is moderate.
  
- o Subsurface Gas: Since this unit is constructed of concrete, the potential for subsurface gas generation is low.

5.19      SWMU 19 - Tank Car Shells (former Oil/Water Separator)

5.19.1    Information Summary

Unit Description: This inactive unit was used for oil/water separation prior to the installation of the API Separator (SWMU 17). It received oily wastewater from the Retention Tank (SWMU 20). The unit consisted of two tank car shells which were elevated on concrete supports. These tank car shells were formerly located in the same area as the API Separator is currently located. No further information regarding descriptions of this unit was available.

Dates of Operation: It is not clear from information available when this unit became operational; however, it is estimated that these tank cars may have been in place as early as 1963 when the facility became operational. These tank car shells were replaced in 1983 with the API Separator (SWMU 17). There is no information available regarding the closure of this unit.

Release Controls: There is no information available regarding release controls formerly associated with these structures. However, this unit was located in the area where the API Separator is currently located, which is currently underlain with concrete and contained by concrete dikes.

Wastes Managed: The type of waste managed by this unit was the oily wastewater from the Retention Tank (SWMU 20). This waste had the potential to contain the hazardous constituents associated with creosote production such as: creosote, chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Release: There have been no documented releases from this unit. These tanks have been removed from the site, and therefore could not be observed.

#### 5.19.2 Release Potential

- o Soil/Groundwater: Since the former location of this unit is underlain with concrete and surrounded by concrete walls, the potential for past release of hazardous constituents to soil/groundwater was low. The potential for current release was evaluated for the API Separator (SWMU 17).
- o Surface Water: Since the location of this unit is underlain with concrete and surrounded by concrete walls, the potential for past release of

hazardous constituents to subsurface was low.

The potential for present release from this area was evaluated for the API Separator (SWMU 17).

- o Air: Since this unit was open and was used to manage semi-volatile wastes, the potential for past release of hazardous constituents to air is moderate. Since this unit no longer exists, the potential for current release is low.
- o Subsurface Gas: Since this unit was aboveground, the potential for subsurface gas generation is low.



5.20      SWMU 20 - Retention Tank (T-105) (Photos 21 and 22)

5.20.1    Information Summary

Unit Description: This unit is constructed of carbon steel and has a capacity of approximately 10,000 gallons. It is a closed-topped tank and is associated with the API Separator (SWMU 17). The function of this unit is to gravity separate oil and tar from water. This unit receives oily wastewater from the Concrete Sump S-200 (SWMU 18), Tank Farm Area Runoff (Area of Concern B), and distillate wastewater. Light oils are routed from this unit to the API Separator, then to product tank storage. Heavy oils accumulated in this unit are sent directly to storage. Wastewater is routed to the API Separator. All inflow and outflow is via aboveground piping.

Dates of Operation: This unit became operational in 1963. It is currently in service. There are no plans for closure.

Release Controls: This unit is situated on a concrete pad inside a 3-foot concrete diked area. It is located within the process tank area.

Wastes Managed: This unit receives waste from the Concrete Sump S-200 (SWMU 18), distillate wastewater, and oily waste wastewater from the Tank Farm Area (Area of Concern B). This waste many contain the hazardous constituents associated with creosote production such as creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Release: There have been no documented releases from this unit. There was no evidence of release during the VSI.

#### 5.20.2 Release Potential

- o Soil/Groundwater: Since this unit is located aboveground on a concrete pad, the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit is located within a concrete retaining wall, the potential for release of hazardous constituents to surface water is low.

- o Air: Since this unit is totally enclosed (i.e., it has a closed top), the potential for release of hazardous constituents to air is low.
  
- o Subsurface Gas: Since this unit is situated aboveground on a concrete pad, the potential for subsurface gas generation is low.

5.21 SWMU 21 - Drumming Area Trench System (Photos 26 and 27)

5.21.1 Information Summary

Unit Description: This active area is located throughout the northwest portion of the facility to contain runoff from the product drumming area, wastewater treatment system and Dumpster Storage Area (SWMU 6). It consists of a concrete trench approximately 2 feet deep covered with steel grating. Runoff from this trench system reportedly is routed to the Effluent Ditch (SWMU 16) for disposal at NPDES Outfall 001.

Dates of Operation: This unit is believed to have been put into operation in 1963. It is currently in service. There are no plans for closure.

Release Controls: This unit is constructed of concrete and is covered with steel grating.

Wastes Managed: This unit receives spilled material from the product drumming area and has the potential to receive runoff from the wastewater treatment system area. This waste may contain hazardous constituents associated with creosote such

as creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: According to the facility representatives during the VSI, wastewater from this unit flows to the Effluent Ditch (SWMU 16) and discharges at NPDES Outfall 001.

#### 5.21.2 Release Potential

- o Soil/Groundwater: Since this unit is constructed of concrete, the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit reportedly discharges to Outfall 001 via the Effluent Ditch (SWMU 16), the potential for release of hazardous constituents to surface water is high. This release is regulated under NPDES.
- o Air: Since this unit is open to the atmosphere and managed semi-volatile organics, the potential for release of hazardous constituents to air is moderate to high.

- o Subsurface Gas: Since this unit is constructed of concrete, the potential for for subsurface gas generation is low.

## 5.22 SWMU 22 - Process Area Trench System (Photo 28)

### 5.22.1 Information Summary

Unit Description: This active area is located throughout the northwest portion of the facility to contain runoff from the processing units, sump system, tank car and truck loading/unloading areas. It consists of a concrete trench approximately 2 feet deep covered with steel grating. Runoff from this trench system is routed to the Concrete Sump S-200 (SWMU 18), Sump S-400 (SWMU 13) and Sump S-500 (SWMU 12).

Dates of Operation: This unit is believed to have been put into operation in 1963. It is currently in service. There are no plans for closure.

Release Controls: This unit is constructed of concrete and is covered with steel grating.

Wastes Managed: This unit receives wastewater and runoff from the process area, sump systems and tank car and truck loading/unloading areas. This waste may contain hazardous constituents associated with creosote production such as creosote (U051), chrysene, naphthalene, fluoranthene benzo (b)

fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

History of Releases: There have been no documented releases from this unit.

#### 5.22.2 Release Potential

- o Soil/Groundwater: Since this unit is constructed of concrete, the potential for release of hazardous constituents to soil/groundwater is low.
- o Surface Water: Since this unit discharges to the various sumps for treatment in the API Separator (SWMU 17), the potential for release of hazardous constituents to surface water is low.
- o Air: Since this unit is open to the atmosphere and manages semi-volatile organics, the potential for release of hazardous constituents to air is moderate to high.



- o Subsurface Gas: Since this unit is constructed of concrete, the potential for for subsurface gas generation is low.

5.23      SWMU 23 - Sewer System (No photo)

5.23.1    Information Summary

Unit Description: This piping system is reportedly constructed of steel and/or reinforced concrete. It runs throughout the facility for the routing of tank car loading/unloading area runoff, sanitary wastes, laboratory wastes, drumming area wastes and storm water runoff. Catch basins are located throughout the facility for sewer collection of supposedly uncontaminated storm water. Facility representatives could not identify the location of all components of this system.

Dates of Operation: This unit is believed to have been put into operation in 1963 when the facility began operations. It is still in service.

Release Controls: Reportedly, this system is constructed of 15-inch reinforced concrete piping. There are no other known release controls associated with this unit.

Wastes Managed: This unit receives "uncontaminated" and contaminated storm water runoff, laboratory wastes, drumming area wastes, and sanitary wastes. Hazardous constituents in these

wastes may include creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene and toluene (from lab waste).

History of Releases: Waste from this unit is intentionally discharged to the Effluent Ditch (SWMU 16). Otherwise, there have been no documented releases from this unit. This unit is located underground and could not be observed during the VSI.

#### 5.23.2 Release Potential

- o Soil/Groundwater: Since this unit is located underground and could not be inspected during the VSI, the potential for release of hazardous constituents to soil/groundwater could not be evaluated.
- o Surface Water: Since this unit is located underground and discharge is first to the Effluent Ditch (SWMU 16), the potential for direct release of hazardous constituents to surface water (from this unit) is low.

- o Air: Since this unit is underground, the potential for release of hazardous constituents to air is low.
- o Subsurface Gas: Since the integrity of this unit could not be determined, the potential for subsurface gas generation could not be evaluated.

## 6.0 AREAS OF CONCERN

This section of the PR/VSI report identifies two areas of concern that were identified during the VSI.

### 6.1 Tank Car Loading/Unloading Area (Photo 29)

#### Area of Concern A

The tank car loading/unloading areas is a designated area for unloading products such as pitch creosote and fine oils. This area consists of two railroad tracks for receiving tank cars. The two tracks are separated by the Process Area Trench System (SWMU 22). Runoff wastes received by the trench system in this area are routed to the Concrete Sump S-200 (SWMU 18) via the sewer system. During the VSI, spills were observed on the soils around the railroad tracks.

### 6.2 Tank Farm Area (Photos 23, 24 and 25)

#### Area of Concern B

This active area is a tank farm which has chronic spills and leaks of creosote products. During the VSI, standing water was observed in the northwest corner of the tank farm area. Oil stains were evident on the concrete dikes. State inspection reports of 1983, 1984 and 1985 indicate that wastewater collection in this area is a chronic problem. A sampling inspection performed by TWC in 1985 indicated several hazardous constituents such as anthracene, chrysene,

fluoranthene, naphthalene and other hydrocarbons to be present in the tank farm wastes at significant levels (49). The state has requested that the facility devise an alternate means of waste collection for this unit and initiate corrective action. Groundwater monitoring is currently in progress for this unit under corrective action (107). A state compliance monitoring evaluation (CME) has indicated releases of hazardous constituents such as naphthalene, acenaphthalene, phenanthrene, and fluoranthene.

The tank farm area is approximately 125 feet by 300 feet and is surrounded by a 3-foot high earthen dike which has been covered with cement.

This unit has been in operation since the construction of the facility, approximately 1963. This unit is currently in operation.

Release controls which exist at this unit consist of a diking system around the entire tank farm area. During the VSI, it was noted that concrete poured over the dikes was cracked and incomplete in the south, southeast section. The earthen dike beneath the concrete was eroding. However, freeboard in

excess of 2 feet was observed. Monitoring of the groundwater is accomplished with four wells which were installed in 1987. Quarterly sampling began in 1988. No sample analysis were available for review.

Three tanks within this unit contain creosote and raw product prior to processing. Spills and leaks of this material, evident in the tank farm area, may contain the hazardous constituents associated with creosote production such as creosote (U051), chrysene, naphthalene, fluoranthene benzo (b) fluoranthene, benzo (a) pyrene, indeno (1,2,3,-cd) pyrene, benzo (a) anthracene, dibenzo (a) anthracene, and acenaphthalene.

## 7.0 CONCLUSIONS AND SUGGESTED ACTIONS

This section provides a summary of suggested further actions for Solid Waste Management Units (SWMUs) and Areas of Concern at the Koppers Company, Houston, Texas.

### SWMU 1 - Storm Water Surge Tank (T-600)

Suggested Further Action: An RFI appears warranted for this unit.

Reason: An overflow pipe which discharges directly to the ground, resulted in a documented release of wastewater in 1986.

Supplemental Information: It may be warranted to provide adequate secondary containment to contain overflow events from this unit and the adjacent open-top wastewater treatment facilities. This would lessen the potential for release of hazardous constituents to soil/ groundwater and surface water. In any event, the overflow discharge pipe should be rerouted to a contained collection area. In addition, an assessment of air releases from this unit may be warranted to determine if hazardous constituents are being released at significant levels.



SWMU 2 - Sludge Tank (T-630)

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is totally enclosed, surrounded by a concrete pad and curbing, and potential runoff is contained.

SWMU 3 - Holding Tank (T660)

Suggested Further Action: No further action is suggested at this time.

Reason: There have been no documented releases from this unit.

Supplemental Information: It may be warranted to include this unit in a containment system for the Storm Water Surge Tank (SWMU 1) and adjacent open-top wastewater treatment units. This would decrease the potential for release of hazardous constituents to soil/groundwater. In addition, an assessment of air releases from this unit may be warranted to determine if hazardous constituents are being released at significant levels.

SWMU 4 - Steel Tank

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is surrounded by a concrete sump with adequate capacity to contain any spills or overflows.

Supplemental Information: An assessment of air releases from this unit may be warranted to determine if hazardous constituents are being released at significant levels.

SWMU 5 - Vacuum Drum Filter

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is located in a concrete contained area. A hopper is provided to receive solids from this unit and wastewater is directed to a tank.

Supplemental Information: An assessment of air releases from this unit may be warranted to determine if hazardous constituents are being released at significant levels.

SWMU 6 - Dumpster Storage Area

Suggested Further Action: No further action is suggested at this time.

Reason: This unit consists of two dumpsters which are covered and it is located in an area with concrete containment. Storage in this location is for less than 90 days.

Supplemental Information: An assessment of air releases from this unit may be warranted to determine if hazardous constituents are being released at significant levels.

SWMU 7 - Hopper Storage Area

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is covered and is located in an area with concrete containment. Storage in this location is for less than 90 days.

SWMU 8 - Aeration Tank

Suggested Further Action: No further action is suggested at this time.

Reason: This unit discharges to the Clarifier (SWMU 9) as a part of the wastewater treatment system. Drainage from the unit is sloped to the Drumming Area Trench System (SWMU 21).

Supplemental Information: It may be warranted to include this unit in a containment system for the Storm Water Surge Tank (SWMU 1) and adjacent open-top wastewater treatment units. In addition, an assessment of air releases from this unit may be warranted to determine if hazardous constituents are being released at significant levels.

SWMU 9 - Clarifier (T-620)

Suggested Further Action: No further action is suggested at this time.

Reasons: Normal discharge from this unit is intentionally routed to the Effluent Ditch (SWMU 16) for permitted discharge from the facility Outfall 001.

#### SWMU 10 - Land Irrigation Area

Suggested Further Action: An RFI appears warranted for this unit.

Reason: This inactive unit was previously used to irrigate facility wastewaters as a treatment process (evaporation and organic reduction). Wastes containing hazardous constituents were sprayed on this field. No analyses were available regarding soil or groundwater for this unit. There were no known release controls associated with this unit. Surface and subsurface sampling is suggested to determine if hazardous constituents have been released to this media. If so, a groundwater investigation may be warranted.

#### SWMU 11 - Surface Impoundment

Suggested Further Action: No further action under corrective action authorities is suggested at this time.

Reason: This inactive RCRA unit is currently "in the process" of closure under direction of TWC. A closure plan was submitted in 1986 and approved. An amended closure plan has been

submitted and the facility is awaiting approval. Groundwater monitoring wells are in place and reportedly, a quarterly groundwater assessment is being conducted.

Supplemental Information: It may be warranted to inquire into the delays in closure of the surface impoundment and results of groundwater analyses. Groundwater monitoring results were to be submitted to TWC in March 1988. These were not available for review for the PR/VSI.

SWMU 12 - Sump S-500

Suggested Further Action: No further action is suggested for this unit.

Reason: This unit is covered and constructed of concrete. It has a level indicator and an automatic pumping system.

Supplemental Information: An assessment of air quality at this unit may be warranted in order to determine if hazardous constituents are being released at significant levels.

SWMU 13 - Sump S-400

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is covered and is constructed of concrete. It has a level indicator and an automatic pumping system.

Supplemental Information: An assessment of air quality at this unit may be warranted in order to determine if hazardous constituents are being released at significant levels.

SWMU 14 - Waste Pile

Suggested Further Action: An RFI appears warranted for this unit.

Reason: This unit is believed to have been located in the tank farm area (AOC B). It contained spill clean-up materials containing hazardous constituents and may have been a contributor to known contamination.

Supplemental Information: An RFI has been suggested for the Tank Farm Area (AOC B). Coordination of corrective action activities at the two units is suggested.

SWMU 15 - Decanter Tank

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is totally enclosed and is contained in a concrete area with concrete curbing.

SWMU 16 - Effluent Ditch

Suggested Further Action: An RFI appears warranted for this unit.

Reason: This unit continually over a period of several years has received wastewater which may have contained hazardous constituents. Documented excursions exist for the outfall to the ditch (101) and the outfall from this ditch (001) to the Houston Ship Channel. Since this unit is unlined, the potential for release of hazardous constituents to soil/groundwater is high. Soil and/or sediment sampling is suggested to determine if hazardous constituents have been released to this media. If so, a groundwater investigation may be warranted.



SWMU 17 - API Separator

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is aboveground, situated over a concrete pad and is surrounded by the production area containment system (concrete diking).

Supplemental Information: An assessment of air quality in the vicinity of this unit may be warranted to determine if hazardous constituents are being released at significant levels.

SWMU 18 - Concrete Sump, S-200

Suggested Further Action: No further action is suggested at this time.

Reason: This unit is covered, is constructed of concrete and is located inside a containment area.